```
     FILE 'CAPLUS' ENTERED AT 15:49:18 ON 26 AUG 2004
L1         1727 SEA ABB=ON  PLU=ON  (MORAXELL? OR M OR BRANHAMELL? OR B)(W)CATA
                RRHAL?
L2           47 SEA ABB=ON  PLU=ON  L1 AND (DLOS OR LOS OR LIPOOLIGOSACCHARIDE
                OR OLIGOSACCHARIDE OR OLIGO SACCHARIDE OR LIPOOLIGO SACCHARIDE
                OR OS)
L3            3 SEA ABB=ON  PLU=ON  L2 AND EXOTOXIN

     FILE 'REGISTRY' ENTERED AT 15:50:34 ON 26 AUG 2004
                E MONOPHOSPHORYL LIPID A/CN 5
L4            2 SEA ABB=ON  PLU=ON  "MONOPHOSPHORYL LIPID A"/CN
                E TREHALOSE/CN 5
L5            1 SEA ABB=ON  PLU=ON  TREHALOSE/CN
                E ALUM/CN 5
L6            2 SEA ABB=ON  PLU=ON  ALUM/CN
L7            5 SEA ABB=ON  PLU=ON  L4 OR L5 OR L6

     FILE 'CAPLUS' ENTERED AT 15:50:50 ON 26 AUG 2004
L8            1 SEA ABB=ON  PLU=ON  L3 AND (L4 OR LIPID A OR TREHALOSE OR
                ALUM)

L8   ANSWER 1 OF 1  CAPLUS  COPYRIGHT 2004 ACS on STN
ED   Entered STN:  29 Jul 1999
ACCESSION NUMBER:          1999:464181  CAPLUS
DOCUMENT NUMBER:           131:86860
TITLE:                     Lipooligosaccharide-based vaccine for
                           prevention of Moraxella (Branhamella)
                           catarrhalis infections in mammals
INVENTOR(S):               Gu, Xin-Xing; Robbins, John B.
PATENT ASSIGNEE(S):        The Government of the United States of America,
                           Department of Health and Human, USA
SOURCE:                    PCT Int. Appl., 60 pp.
                           CODEN: PIXXD2
DOCUMENT TYPE:             Patent
LANGUAGE:                  English
FAMILY ACC. NUM. COUNT:    3
PATENT INFORMATION:

     PATENT NO.          KIND   DATE        APPLICATION NO.         DATE
     ---------------     ----   --------    --------------------    --------
     WO 9936086           A1    19990722    WO 1999-US590           19990112
         W:  AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE,
             DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP,
             KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN,
             MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM,
             TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU,
             TJ, TM
         RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES,
             FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI,
             CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
     CA 2315746           AA    19990722    CA 1999-2315746         19990112
     AU 9922212           A1    19990802    AU 1999-22212           19990112
     BR 9906902           A     20001017    BR 1999-6902            19990112
     EP 1047447           A1    20001102    EP 1999-902170          19990112
         R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, FI
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| | | | | | |
|---|---|---|---|---|---|
| JP 2002509115 | T2 | 20020326 | JP 2000-539859 | | 19990112 |
| US 6685949 | B1 | 20040203 | US 2000-610034 | | 20000705 |
| US 2004126381 | A1 | 20040701 | US 2003-688115 | | 20031017 |
| US 2004115214 | A1 | 20040617 | US 2003-729027 | | 20031205 |
| PRIORITY APPLN. INFO.: | | | US 1998-71483P | P | 19980113 |
| | | | US 1996-16020P | P | 19960423 |
| | | | US 1997-842409 | A3 | 19970423 |
| | | | WO 1999-US590 | W | 19990112 |
| | | | US 2000-610034 | A2 | 20000705 |
| | | | US 2001-789017 | A2 | 20010220 |
| | | | US 2001-288695P | P | 20010503 |
| | | | WO 2001-US32331 | A1 | 20011016 |

AB A conjugate vaccine for **Moraxella catarrhalis** comprising isolated **lipooligosaccharide** from which esterified fatty acids have been removed, to produce a detoxified **lipooligosaccharide** (**dLOS**), or from which **lipid A** has been removed, to produce a detoxified **oligosaccharide** (**OS**), which is linked to an immunogenic carrier. The immunogenic carrier is selected from the group consisting of UspA or CD derived from **M. catarrhalis**, tetanus toxoid, HMP derived from Haemophilus influenza, diphtheria toxoid, detoxified P. aeruginosa toxin A, cholera toxin, pertussis toxin, hepatitis B surface or core antigen, rotavirus VP 7 protein, CRM, CRM197, CRM3201 and respiratory syncytial virus F and G protein. The vaccine is useful for preventing otitis media and respiratory infections caused by **M. catarrhalis** in mammals, including humans.

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

(FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH, JICST-EPLUS, JAPIO' ENTERED AT 15:52:15 ON 26 AUG 2004)

L9 1 S L8

L9 ANSWER 1 OF 1 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN

ACCESSION NUMBER: 1999-444322 [37] WPIDS

CROSS REFERENCE: 2001-272747 [28]; 2002-163687 [21]; 2003-129162 [12]; 2004-516882 [49]

DOC. NO. CPI: C1999-130893

TITLE: Detoxified **lipooligosaccharide**-based vaccine for prevention of **Moraxella catarrhalis** infections in mammals.

DERWENT CLASS: B04 D16

INVENTOR(S): GU, X; ROBBINS, J B

PATENT ASSIGNEE(S): (USSH) US DEPT HEALTH & HUMAN SERVICES; (GUXX-I) GU X; (ROBB-I) ROBBINS J B

COUNTRY COUNT: 85

PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| WO 9936086 | A1 | 19990722 | (199937)* | EN | 60 |

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW

W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT

UA UG US UZ VN YU ZW
AU 9922212 A 19990802 (199954)
BR 9906902 A 20001017 (200056)
EP 1047447 A1 20001102 (200056) EN
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
CN 1288384 A 20010321 (200137)
KR 2001034124 A 20010425 (200164)
MX 2000006678 A1 20010201 (200168)
JP 2002509115 W 20020326 (200236) 66
US 6685949 B1 20040203 (200413)
US 2004115214 A1 20040617 (200440)

APPLICATION DETAILS:

| PATENT NO | KIND | | APPLICATION | DATE |
|---|---|---|---|---|
| WO 9936086 | A1 | | WO 1999-US590 | 19990112 |
| AU 9922212 | A | | AU 1999-22212 | 19990112 |
| BR 9906902 | A | | BR 1999-6902 | 19990112 |
| | | | WO 1999-US590 | 19990112 |
| EP 1047447 | A1 | | EP 1999-902170 | 19990112 |
| | | | WO 1999-US590 | 19990112 |
| CN 1288384 | A | | CN 1999-802142 | 19990112 |
| KR 2001034124 | A | | KR 2000-707737 | 20000713 |
| MX 2000006678 | A1 | | MX 2000-6678 | 20000706 |
| JP 2002509115 | W | | WO 1999-US590 | 19990112 |
| | | | JP 2000-539859 | 19990112 |
| US 6685949 | B1 | Provisional | US 1998-71483P | 19980113 |
| | | Cont of | WO 1999-US590 | 19990112 |
| | | | US 2000-610034 | 20000705 |
| US 2004115214 | A1 | Provisional | US 1998-71483P | 19980113 |
| | | Cont of | WO 1999-US590 | 19990112 |
| | | Div ex | US 2000-610034 | 20000705 |
| | | | US 2003-729027 | 20031205 |

FILING DETAILS:

| PATENT NO | KIND | | PATENT NO |
|---|---|---|---|
| AU 9922212 | A | Based on | WO 9936086 |
| BR 9906902 | A | Based on | WO 9936086 |
| EP 1047447 | A1 | Based on | WO 9936086 |
| JP 2002509115 | W | Based on | WO 9936086 |
| US 2004115214 | A1 | Div ex | US 6685949 |

PRIORITY APPLN. INFO: US 1998-71483P 19980113; US 2000-610034 20000705; US 2003-729027 20031205

AN 1999-444322 [37] WPIDS
CR 2001-272747 [28]; 2002-163687 [21]; 2003-129162 [12]; 2004-516882 [49]
AB WO 9936086 A UPAB: 20040802
NOVELTY - A **lipooligosaccharide** (**LOS**) isolated from **Moraxella catarrhalis** and detoxified by removal of ester-linked fatty acids to produce detoxified **LOS** (**dLOS**) or treated to remove **lipid** A to produce **oligosaccharide** (**OS**) is new.

Searcher : Shears 571-272-2528

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for a conjugate vaccine for **M. catarrhalis** comprising **dLOS** or **OS**, and a covalently linked immunogenic carrier as above; methods of detoxifying **LOS** isolated from **M. catarrhalis**, by removal of ester-linked fatty acids; methods of making a conjugate vaccine as above.

ACTIVITY - Immunoprotective; Auditory; Antibacterial.

MECHANISM OF ACTION - Vaccine.

USE - The methods are useful for isolation of detoxified **lipooligosaccharide** or **oligosaccharide** from **M. catarrhalis**. The detoxified **lipooligosaccharide** or **oligosaccharide** are useful in conjugate vaccines. The vaccine is useful for protection against **M. catarrhalis** which causes otitis media and respiratory infections.

ADVANTAGE - The invention provides a detoxified **lipooligosaccharide** from **M. catarrhalis**, the major virulence factor for pathogenesis of bacterial infections. When tested by the standard Limulus amebocyte lysate assay, the isolated **LOS** showed 2 x 104 EU/ mu g, whereas the **dLOS** showed 1 EU/ mu g, representing a 20000-fold reduction of toxicity.

Dwg.0/3

FILE 'HOME' ENTERED AT 15:53:21 ON 26 AUG 2004